UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/767,797	01/23/2001	Kevin Lawrence Huck	NEO-0003	3731

7590 08/13/2004	**EXAMINER**
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ART UNIT	PAPER NUMBER
2178	

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Colorado Springs, CO 80903

DATE MAILED: 08/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>23 January 2001</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
   closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-33</u> is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-33</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>1/23/2001</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All   b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage

      application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date <u>5/28/02, 6/14/02</u>.

4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This action is responsive to application 09/767,797 filed on 1/23/2001, with prior art filed on 5/6/2002.

2. Claims 1-33 are pending in the case. Claims 1, 15, 29 are independent claims.

Claim Objections

3. Claim 15 objected to because of the following informalities: On line 8 of the claim, "address" should be "addresses". Appropriate correction is required.

4. Claim 27 objected to because of the following informalities: On line 2 of the claim, "a" is superfluous. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 6 recites the limitation "associative index" in line 3 of the claim. There is insufficient antecedent basis for this limitation in the claim. For purposes of examination, "associative index" shall be taken as "dictionary index".

6. Claim 10, in step j, states "when the duplicates flag is not set, setting the duplicates flag". It is not clear whether this is meant to mean that the duplicates flag should be set when duplicates are present, or in all cases whatsoever. For purposes of examination, step j) shall be taken to read "j) when the duplicates flag is not set and duplicates are present, setting the duplicates flag", but the claim should be amended to clarify this point

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. Claims 1-14 and 29-33 rejected under 35 U.S.C. 101 because the claimed inventions are directed to non-statutory subject matter. All of these claims are directed to inventions that could be performed solely by human means, without technological intervention.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. **Claims 1 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable under Nehab et al. (USPN 6,029,182—filing date 10/4/1996), hereinafter Nehab, further in view of Motoyama (USPN 5,848,386—filing date 5/28/1996), further in view of Voigt et al. (USPN 5,537,534—filing date 2/10/1995), hereinafter Voigt.**

9. **Regarding claim 1,** Nehab discloses a method of storing a flattened structured data document (Nehab flattens the structured document in col. 2, lines 55-65), comprising the steps of a) receiving the flattened structured data document having a plurality of lines, each of the lines having a tag, a data entry and a format character (in col. 2, lines 55-65, Nehab processes a flattened structured document, which would necessarily include those elements when flattened.) Nehab fails to disclose b) storing the tag in a dictionary store; and c) storing the data entry in a dictionary store. However, Motoyama in col. 10, lines 30-60, discloses storage of tag and data information in a dictionary to facilitate

subsequent retrieval of the information. It would have been obvious to one of ordinary skill in the art at the time of the invention to use Motoyama's dictionary storage practice in conjunction with Nehab in order to facilitate later retrieval of the tag and data information. Nehab further fails to disclose d) storing the format character, a tag dictionary offset and a data dictionary offset in a map store. Voigt in col. 4, lines 25-35 discloses that it is advantageous to store data in a map store because it provides for persistent storage of virtual mapping information, so, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a map store to store the format character, a tag dictionary offset, and a data dictionary offset because it would have provided for persistent storage of virtual mapping information.

10. **Regarding dependent claim 7,** Nehab fails to explicitly disclose that a1) wherein each of the lines have a plurality of tags. However, it was notoriously well known in the art at the time of the invention that if a structured document is flattened, more than one tag may be left on one line to increase compactness of the document. It would have been obvious to one of ordinary skill in the art at the time of the invention to put more than one tag on a line in order to increase the compactness of the document.

11. **Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable under Nehab, further in view of Motoyama, further in view of Voigt, further in view of Combs (USPN 6,138,129—filing date 12/16/1997).**

12. **Regarding dependent claim 2,** Nehab, Motoyama, and Voigt fail to disclose that step (b) further includes the steps of: b1) transforming the tag to form a tag transform; b2) storing the tag dictionary offset in a dictionary index at an address pointed to by the tag

transform. However, Combs in col. 2, lines 64-67 and col. 3, lines 1-20 discloses tag

extraction, which inherently involves transformation of tag to the target format, and

storage of offsets in order to efficiently store location information for tags. It would have

been obvious to one of ordinary skill in the art at the time of the invention to transform

tags and store offsets in the manner of Combs in the context of Nehab, Motoyama, and

Voigt in order to efficiently store location information for tags.

13. **Regarding dependent claim 3,** it is analogous to claim 2, except data is being

manipulated instead of tags, and it is rejected under similar rationale.

14. **Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable under Nehab,**

further in view of Motoyama, further in view of Voigt, further in view of Combs,

further in view of Eliovson (USPN 6,128,618—filing date 11/13/1997).

15. **Regarding dependent claim 4,** Nehab, Motoyama, Voigt, and Combs fail to disclose

that step (b1) further includes the steps of: i) determining if the tag is unique; ii) when the

tag is unique, storing the tag in the dictionary store; iii) when the tag is not unique, the tag

is not stored in the dictionary store. However, Eliovson, in Claim 1 (see col. 14, lines 30-

35), discloses storing tags if and only if they are unique. It would have been obvious to

one of ordinary skill in the art at the time of the invention to store tags if and only if they

are unique in the manner of Eliovson in the context of Nehab, Motoyama, Voigt, and

Combs in order to avoid duplication.

16. **Claims 5-6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable under**

Nehab, further in view of Motoyama, further in view of Voigt, further in view of

Combs, further in view of Eliovson, further in view of Crus et al. (USPN 5,133,068—

filing date 8/28/1991), hereinafter Crus.

17. **Regarding dependent claim 5,** Nehab, Motoyama, Voigt, Combs, and Eliovson fail to

disclose determining if a tag pointer is stored in the dictionary index at an address equal

to the tag transform; when the tag pointer is stored in the dictionary index, the tag is not

unique. However, Crus, in col. 10, lines 10-30, discloses the use of pointers to enforce a

uniqueness constraint. It would have been obvious to one of ordinary skill in the art at

the time of the invention to use pointers to enforce a uniqueness constraint in the manner

of Crus in the context of Nehab, Motoyama, Voigt, Combs, and Eliovson in order to have

enhanced control over uniqueness using a simple, software-based technique.

18. **Regarding dependent claim 6,** it is the complementary concept to claim 5 and hence

logically follows from the rejection to that claim.

19. **Regarding dependent claim 8,** it is the reversal of claim 5, and is rejected under

appropriately modified rationale.

20. **Claims 9-10 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable under**

Nehab, further in view of Motoyama, further in view of Voigt, further in view of

Combs, further in view of Crus, further in view of Curtis et al. (USPN 6,278,992

B1—filing date 2/17/1999), hereinafter Curtis.

21. **Regarding dependent claim 9,** Nehab, Motoyama, Voigt, Combs, and Crus fail to

disclose the steps of: h) when the tag is not unique, determining if a duplicates flag is set;

i) when the duplicates flag is set, incrementing a duplicates count. However, Curtis, in

col. 17, lines 15-40 discloses the use of a duplicates flag and counter in order to

appropriately adjust for the presence of duplicates. It would have been obvious to one of

ordinary skill in the art at the time of the invention to have used a duplicates flag and

counter have to have appropriately adjusted for the presence of duplicates in the manner

of Curtis in the context of Nehab, Motoyama, Voigt, Combs, and Crus.

22. **Regarding dependent claim 10,** Nehab, Motoyama, Voigt, Combs, and Crus fail to

disclose the steps of: j) when the duplicates flag is not set and duplicates are present,

setting the duplicates flag; k) setting the duplicates count to two. However, as noted in

the rejection to claim 9, Curtis provides for a duplicates flag and a duplicates count. It

was notoriously well known in the art at the time of the invention that a duplicates flag is

set to indicate the presence of duplicates, and that when it is initially set, there are two

duplicates and hence the count should be set to two. It would have been obvious to one

of ordinary skill in the art at the time of the invention to set the duplicates flag and set the

duplicates count to two.

23. **Regarding dependent claim 13,** Nehab, Motoyama, Voigt, Combs, and Crus fail to

disclose the steps of: j) calculating a transform of the tag with an instance count equal to

the duplicates count to form a next instance tag transform; k) storing a next map pointer

in the map index at an address associated with the next instance tag transform. However,

Curtis, in col. 5, lines 30-45 discloses monitoring of duplicates as instances, forming

transforms, and storing pointers to manage multiple occurrences of strings. It would have

been obvious to one of ordinary skill in the art at the time of the invention to use

monitoring of duplicates as instances, forming transforms, and storing pointers to manage

multiple occurrences of strings in the manner of Curtis in the context of Nehab,

Motoyama, Voigt, Combs, and Crus.

24. **Claim 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable under Nehab, further in view of Motoyama, further in view of Voigt, further in view of Combs, further in view of Crus, further in view of Curtis, further in view of Godwin et al. (USPN 6,505,192 B1—filing date 8/12/1999), hereinafter Godwin.**

25. **Regarding dependent claim 11,** Nehab, Motoyama, Voigt, Combs, Crus, and Curtis fail

to disclose the steps of: l) calculating a transform of the tag with an instance count to

form a first instance tag transformat and a second instance tag transform; m) storing a

first map pointer in the map index at an address associated with the first instance tag

transform. However, in col. 11, lines 1-30, Godwin discloses a transform with an

instance count and storing map pointers in a place associated with the index tag transform

in order to successfully handle security rules (see col. 11, lines 5-10). It would have been

obvious to one of ordinary skill in the art at the time of the invention to do a transform

with an instance count and storm map point in a place associated with the index tag

transform in order to successfully handle security rules in the manner of Godwin in the

context of Nehab, Motoyama, Voigt, Combs, Crus, and Curtis.

26. **Regarding dependent claim 12,** it involves storing a second map pointer in the map

index at an address associated with the second instance tag transform, and it is rejected

under the same rationale as the same storage procedure that occurs for a first map pointer

in claim 11.

27. **Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable under Nehab, further in view of Motoyama, further in view of Voigt, further in view of Alston, Jr. et al. (USPN 5,315,709—filing date 12/3/1990), hereinafter Alston, Jr..**

28. **Regarding dependent claim 14,** Nehab, Motoyama, and Voigt fail to disclose the steps of e) creating a map index; f) determining if the data entry is unique; g) when the data entry is unique, storing a pointer to a map location of the tag. However, Alston, Jr. discloses in col. 11, lines 35-60 creating a map index with pointers that indicate uniqueness. It would have been obvious to one of ordinary skill in the art at the time of the invention to create a map index with pointers that indicate uniqueness in the manner of Alston, Jr. in the context of Nehab, Motoyama, and Voigt in order allow rapid access to indexed material with information allowing appropriate handling of duplicates.

29. **Claims 15-17 and 23-28 are rejected under 35 U.S.C. 103(a) as being unpatentable under Nehab, further in view of Motoyama, further in view of Voigt, further in view of Takagi et al. (USPN 4,812,969—filing date 5/22/1986), hereinafter Takagi.**

30. **Regarding independent claim 15,** Nehab, Motoyama, and Voigt disclose a map store having a plurality of cells each containing a dictionary point and a format character; and a dictionary store having a plurality of tags and a plurality of data entries; for the reasons discussed in the rejection of claim 1. They fail to disclose an associative index having a plurality of addresses each of the plurality of addresses having an entry flag. However, Takagi discloses in col. 2, lines 5-40 the use of an associative index with multiple addresses, each address having a flag. It would have been obvious to one of ordinary skill in the art at the time of the invention to use an associative index with multiple

addresses, each address having a flag in the manner of Takagi in the context of Nehab, Motoyama, and Voigt in order to reduce time for address translation (see col. 2, lines 1-6 of Takagi).

31. **Regarding dependent claim 16,** a flattener that convers the structured data document into a flattened structured data document, the flattener connected to the map store is inherent to claim 1 and is rejected under similar rationale.

32. **Regarding dependent claim 17,** a parser parsing the flattened structured data document for a tag and a data entry is inherent to claim 1 and is rejected under similar rationale.

33. **Regarding dependent claim 23,** it would follow logically from claim 15, since there are a plurality of cells each containing a format character, that there are a plurality of format character.

34. **Regarding dependent claim 24,** Nehab fails to explicitly disclose that one of the plurality of format characters indicates a first new tag in a flattened line. However, it was notoriously well known in the art at the time of the invention that part of flattening a document involves using a format character to indicate a first new tag (else there would be no way to differentiate the first tag and the flattened document would be unreadable). Hence, it would have been obvious to one of ordinary skill in the art at the time of the invention to have used a format character to have indicated a first new tag in a flattened line in order to help differentiate first tags.

35. **Regarding dependent claim 25,** Nehab fails to explicitly disclose that one of the plurality of formation characters indicates a number of consecutive tags closed after a data entry. However, it was notoriously well known in the art at the time of the invention

that part of flattening a document involves indicating when tags are closed in order to adequately account for the structure of a document. Hence, it would have been obvious to one of ordinary skill in the art at the time of the invention to have used a format character to have indicated the number of tags close in order to adequately account for the structure of a document.

36. **Regarding dependent claim 26,** Nehab fails to explicitly disclose that one of the plurality of format characters indicates a parent line number of a flattened line. However, it was notoriously well known in the art at the time of the invention that part of flattening a document involves storing line numbers in order to adequately account for the structure of a document. Hence, it would have been obvious to one of ordinary skill in the art at the time of the invention to have used a format character to have stored line numbers in order to adequately account for the structure of a document.

37. **Regarding dependent claim 27,** Nehab fails to explicitly disclose that one of the plurality of format characters indicates an inserted flattened line. However, it was notoriously well known in the art at the time of the invention that part of flattening a document indicates when flattened lines are inserted in order to adequately account for the structure of a document. Hence, it would have been obvious to one of ordinary skill in the art at the time of the invention to have used a format character to have indicated when flattened lines are inserted in order to adequately account for the structure of a document.

38. **Regarding depenendent claim 28,** it modifies claim 15 with limitations from claim 1 and it is rejected under similar rationale.

39. **Claims 18-19 and and 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable under Nehab, further in view of Motoyama, further in view of Voigt, further in view of Takagi further in view of Combs**

40. **Regarding dependent claim 18,** it modifies claim 17 in a manner analogous to the manner in which claim 2 modifies claim 1 and is rejected under similar rationale.

41. **Regarding dependent claim 19,** it modifies claim 15 in a manner analogous to the manner in which claim 3 modifies claim 1 and is rejected under similar rationale.

42. **Regarding dependent claim 21,** it modifies claim 15 with some of the features of claim 2 (in a manner analogous to the way in which these features are obvious additions to claim 1) and is rejected under similar rationale.

43. **Regarding dependent claim 22,** it modifies claim 15 with some of the features of claim 3 (in a manner analogous to the way in which these features are obvious additions to claim 1) and is rejected under similar rationale.

44. **Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable under Nehab, further in view of Motoyama, further in view of Voigt, further in view of Takagi, further in view of Kozol et al. (USPN 5,140,521—filing date 4/26/1989), hereinafter Kozol.**

45. **Regarding dependent claim 20,** Nehab, Motoyama, Voigt, and Takagi fail to disclose that the format character is a delete number. However, Kozol, in col. 1, lines 10-25, discloses disclose the use of delete number formatting characters in conjunction in order to allow a block delete function. It would have been obvious to one of ordinary skill in the art at the time of the invention to use delete number formatting characters in the

manner of Kozol in the context of Nehab, Motoyama, Voigt, and Takagi in order to allow

a block delete function.

46. **Claims 29-32 are rejected under 35 U.S.C. 103(a) as being unpatentable under Nehab, further in view of Motoyama, further in view of Voigt, further in view of Combs, further in view of Takagi.**

47. **Regarding independent claim 29,** it is a method that combines limitations from claims 4, 16, 17 and is rejected under similar rationale.

48. **Regarding dependent claim 30,** it modifies claim 29 with limitations from claim 1 and is rejected under similar rationale.

49. **Regarding dependent claim 31,** it modifies claim 29 with limitations from claims 1 and 2 and is rejected under similar rationale.

50. **Regarding dependent claim 32,** it modifies claim 29 with limitations from claim 2 and is rejected under similar rationale.

51. **Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable under Nehab, further in view of Motoyama, further in view of Voigt, further in view of Combs, further in view of Takagi, further in view of Crus.**

52. **Regarding dependent claim 33,** it modifies claim 32 with limitations from claim 8 and is rejected under similar rationale.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

USPN 6,584,459, B1 (filing date 6/2/1999)—Chang et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan D. Schlaifer whose telephone number is 703-305-9777. The examiner can normally be reached on 8:30-5:00, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Hong can be reached on 703-308-5465. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JS

STEPHEN S. HONG
PRIMARY EXAMINER